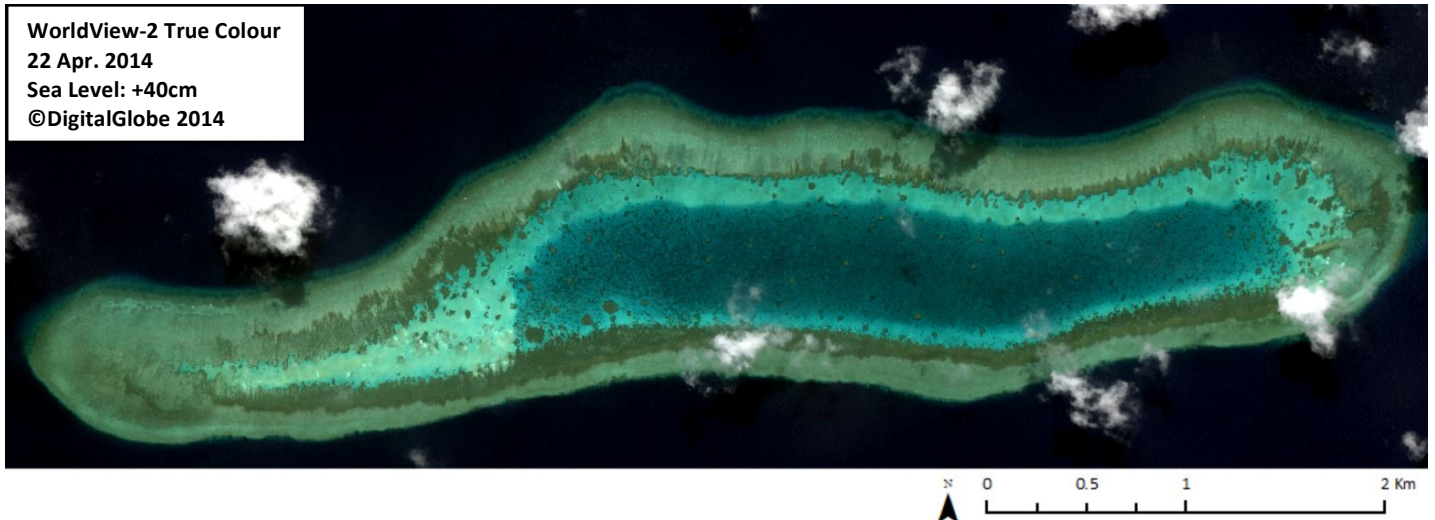


FIRST THOMAS SHOAL

9°19'41.61"N, 115°55'53.41"E

Geographic area

First Thomas Shoal is an oceanic coral atoll that developed on top of a seamount in the centre of the Spratlys. It is located approximately 145NM north of the island of Borneo and under 90NM west of the island of Palawan. It is surrounded by several insular shallow geographic features that are all at a distance of at least 20NM. The closest ones are Boxall Reef and Second Thomas Shoal at around 19-20NM northeast and north, respectively. This elongated atoll extends 7km along its west-east axis and 1.4km at the most on its north-south axis.



Land area above water

There is one small awash sand bank of 10m by 10m on the eastern reef flat in the 22 April 2014 satellite image. On the basis that this image was captured when the sea level was 40cm above Mean Sea Level, it is expected that this sand bank is fully submerged at Mean High Water Spring with a further increase in sea level of 40cm.

Human infrastructure

There are no man-made structures visible on this reef as at 18 October 2014.

Intertidal and submerged area

The aerial coverage of this atoll is 8.12km² comprising a reef flat of 5.05km², a lagoon of 2.19km² and a reef slope of 0.88km². The reef flat is a 14km-long band that is 400m-wide north of the lagoon and 200m-wide south of the lagoon. It includes a sandy back reef that slopes into the lagoon and a shallow part that is around 1-1.5m deep and less than 1m in places; a continuous band that surrounds the lagoon is therefore expected to dry at Lowest Astronomical Tide with a decrease in sea level of 1.5m. The sand-dominated back reef on the northern side of the lagoon is 2-3m deep. The lagoon is shallow (4.5-5m deep) and characterised by a dense reticulate reef system that covers it and includes numerous shallow coral heads that are 25m wide or more. The visible part of the reef slope extends 100m or more in the north but rarely more than 50m in the south. The great depth of the surrounding seabed suggests that it is likely that the reef slope is very steep. Nevertheless, pronounced spurs and grooves can be seen all around and sand terraces as well as chute and buttress zones are also visible on the northern reef slope at a depth of 4-5m.

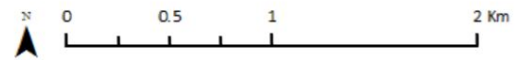
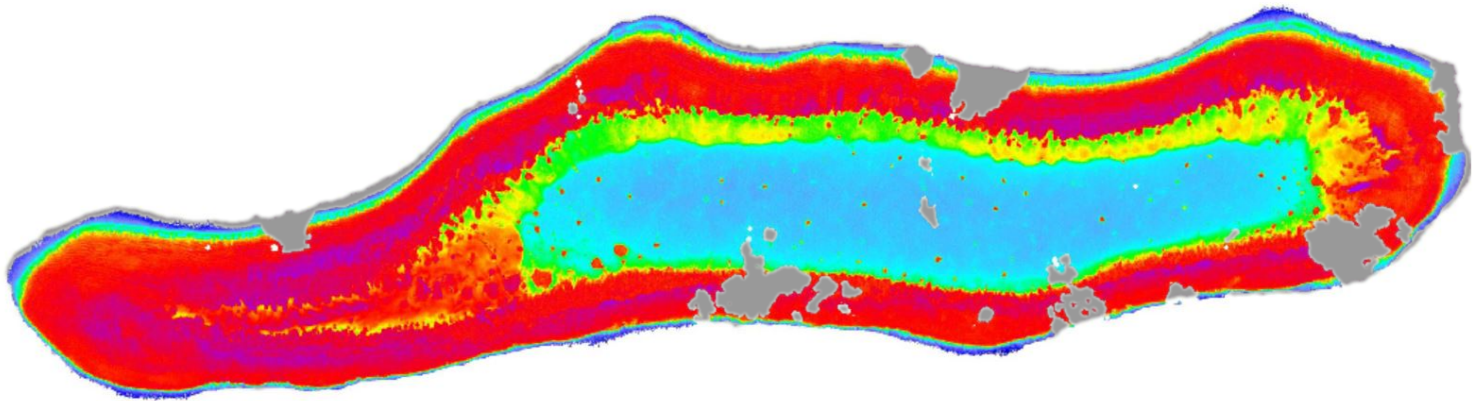
Deep dredging marks that are visible on the bathymetry contours can be observed in certain areas of the reef flat that are coral/seagrass/algae-dominated and on the back reef and may result from destructive fishing methods or coral harvesting. Dredging marks and areas of degraded reef cover a total area of 86,000m².

FIRST THOMAS SHOAL

9°19'41.61"N, 115°55'53.41"E

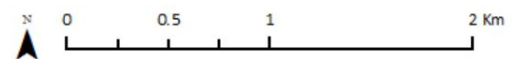
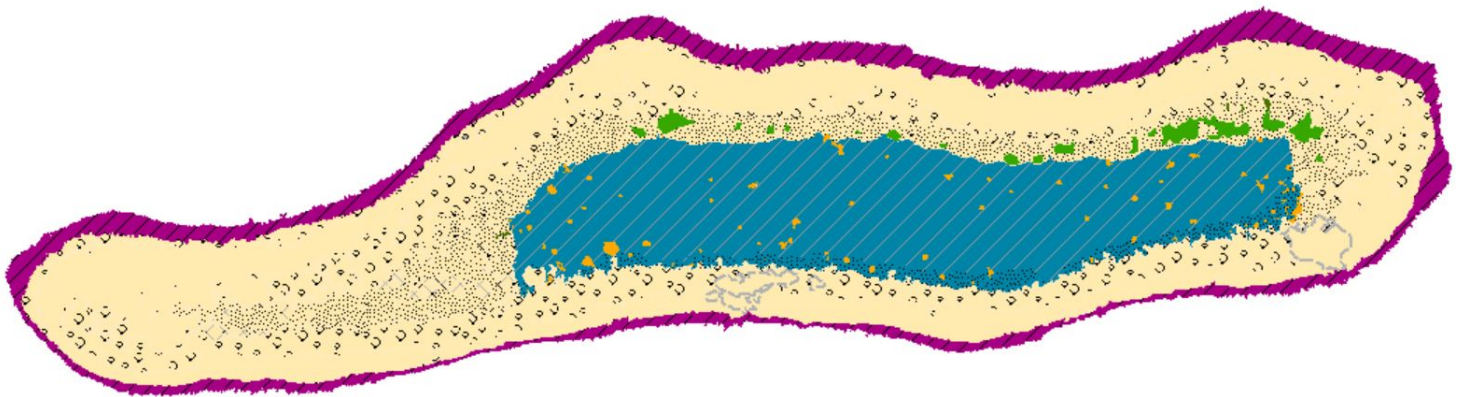
Derived from WorldView-2 satellite data captured on 22 April 2014 [Sea Level: +40cm]

Bathymetry Map*



* Areas in grey show the outer boundary of the feature where bathymetry could not be calculated due to cloud cover, waves or other factors.

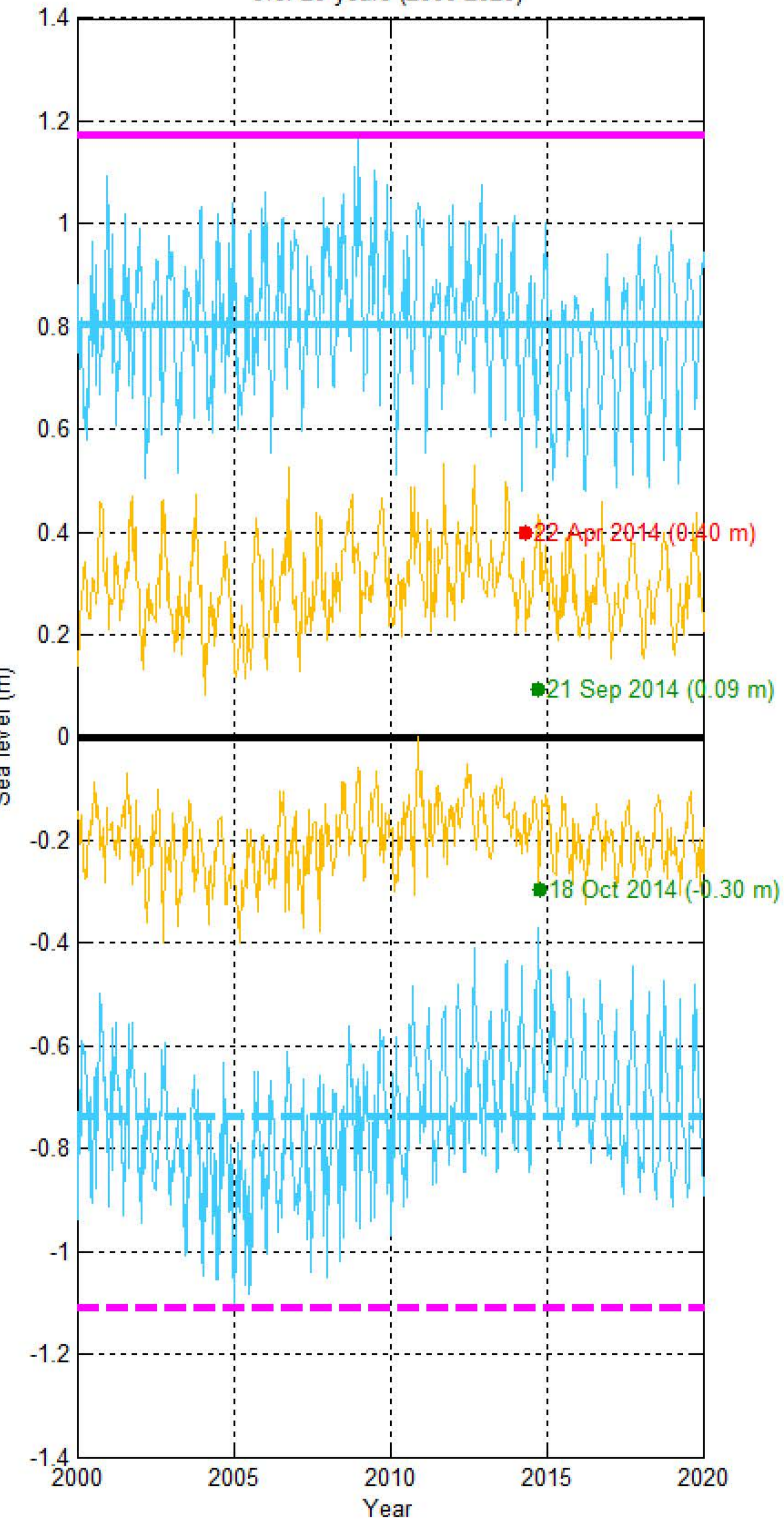
Habitat Classification and Land Cover Map



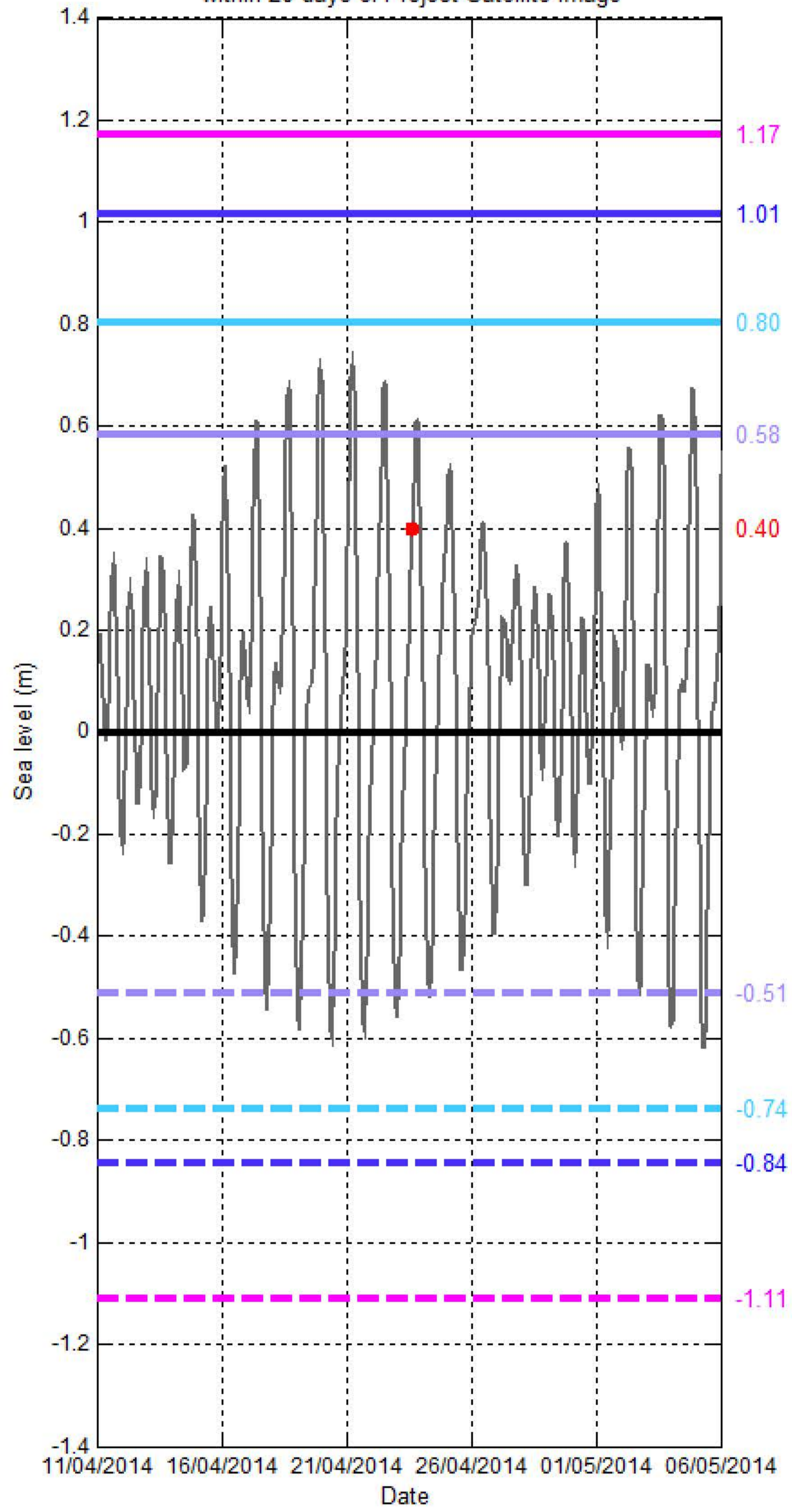
Sea level (SL) at FIRST THOMAS SHOAL

[9°19'41.61"N, 115°55'53.41"E]

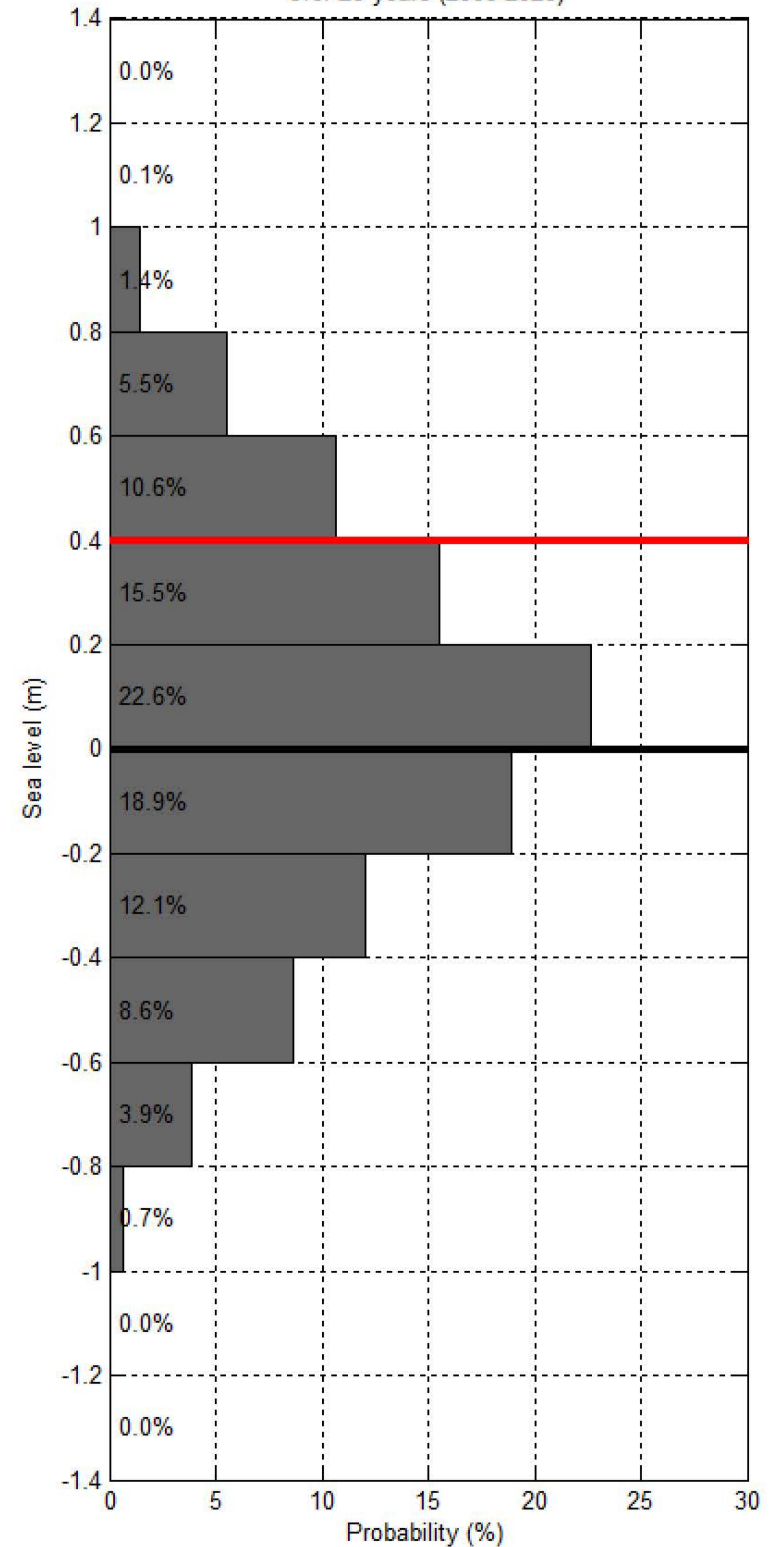
Sea level at spring/neap tide at FIRST THOMAS SHOAL over 20 years (2000-2020)



Sea level at FIRST THOMAS SHOAL within 20 days of Project Satellite Image



Probability of sea level at FIRST THOMAS SHOAL over 20 years (2000-2020)



- Hourly sea level — SL at spring tide — SL at Mean High Water Spring — SL at highest tide of the year — SL at Mean Higher High Water — SL at Highest Astronomical Tide ● Project Satellite Image
- Mean Sea Level — SL at neap tide — SL at Mean Low Water Spring — SL at lowest tide of the year — SL at Mean Lower Low Water — SL at Lowest Astronomical Tide ● Google Earth and Landsat satellite images